

# AEDC

Arnold Engineering Development Center  
Arnold Air Force Base, Tenn. 37389

An Air Force Materiel Command Test Facility

*Test Before Flight*



## 7V Space Chamber

The 7V Space Chamber is a state-of-the-art deep space environment simulation test facility designed to test high performance interceptors and surveillance sensors. The chamber shares vehicle handling and target systems with the 10V Space Chamber as well as support infrastructure. The facility consists of a 7-foot-diameter by 21-foot-long chamber containing a full gaseous helium thermal shroud and an optically clean vacuum allows vibration isolation of the optical bench and all optical elements. The chamber is surrounded by a class 100 clean room with an adjoining class 1000 build-up area.



7V Space Chamber

Photo # 94-017703

### Capabilities:

Thermal Control	A gaseous helium shroud permits deep space environment simulation down to 20 degrees Kelvin.
Vacuum Range	$\leq 5 \times 10^{-7}$ Torr to local atmospheric pressure.
Working Volume	10-foot-diameter x 21-foot-long.
Support Structure	Pneumatic suspension system provides an optical line-of-site vibrational stability of the internal optical bench of 3 microradians.
Pumping System	Turbo molecular and cryogenic high vacuum pumps.
Sensor Mounting	Adjustable mount isolation valve allows installation and removal of sensors while the chamber is at test conditions.
Cold Wall	Full gaseous helium cryogenic shroud capable of temperatures down to 20 degrees Kelvin.
Special Features	Chamber is housed within a class 100 clean room with an adjoining class 1000 build-up area.
Data	All facility data time tagged and archived. Test article data archived if requested.
Work Areas	Test customer offices available. Limited hardware storage available.
Contact	Bobby W. Smith (931) 454-6519 <a href="mailto:bobby.w.smith@arnold.af.mil">bobby.w.smith@arnold.af.mil</a>



AEDC Public Affairs • 100 Kindel Drive, Suite B-213 • Arnold AFB, TN 37389-2213  
(931) 454-5586 • DSN (931) 340-5586

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